(19)日本国特許庁（ＪＰ）　(12)公開特許公報（Ａ）　(11)特許出願公開番号

特開平11－216161

(43)公開日　平成11年(1999)８月10日

(51)Int.Cl.[6]	識別記号	ＦＩ	
Ａ６１Ｆ　13/46		Ａ４１Ｂ　13/02	Ｄ
5/44		Ａ６１Ｆ　5/44	Ｈ

審査請求　未請求　請求項の数３　ＯＬ　（全４頁）

(21)出願番号　特願平10－20000

(22)出願日　平成10年(1998)１月30日

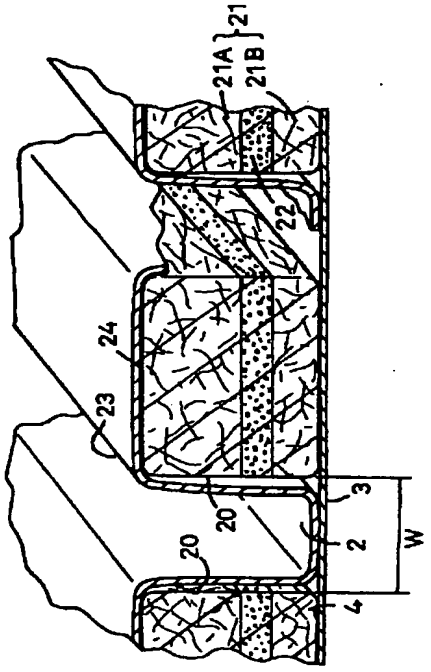
(71)出願人　000115108
ユニ・チャーム株式会社
愛媛県川之江市金生町下分182番地

(72)発明者　杉藤　智子
香川県三豊郡豊浜町和田浜高須賀1531－７
ユニ・チャーム株式会社開発本部内

(74)代理人　弁理士　白浜　吉治

(54)【発明の名称】　使い捨ておむつ

(57)【要約】
【課題】　使い捨ておむつにおいて、高吸水性ポリマー粒子を含む吸液性コアの吸液能力を有効に利用する。
【解決手段】　使い捨ておむつ１の吸液性コア４が、粉砕パルプを主体とする繊維層２１と高吸水性ポリマー粒子を主体とする粒子層２２とを積層することにより形成される。コア４は、おむつ１の前後方向へ延びる仮想線に沿って分割される。分割されて互いに対向するコア４の側面２０には、粒子層２２がのぞく。



1

【特許請求の範囲】
【請求項１】　透液性表面シートと不透液性裏面シートと、これら両シート間に介在する吸液性コアとを備え、前胴周り域と、後胴周り域と、これら両域間に位置する股下域とを有し、前記前胴周り域から股下域を経て後胴周り域方向へ延びる仮想線に沿って、前記コアの少なくとも一部が分割されている使い捨ておむつにおいて、
前記コアが、粉砕パルプを主体とする少なくとも一層の繊維層と高吸水性ポリマー粒子を主体とする少なくとも一層の粒子層とからなり、前記粒子層の上に前記繊維層が位置している実質的な積層品であって、分割されている部位における前記コアの側面に前記粒子層がのぞいていることを特徴とする前記おむつ。
【請求項２】　前記コアが、前記仮想線と直交する方向の仮想線に沿っても分割されている請求項１記載のおむつ。
【請求項３】　分割されて互いに対向する前記コアの側面どうしの間において、前記表面シートが前記側面に沿って垂下して前記裏面シートに当接し、その当接する部位において前記表裏面シートが互いに接合している請求項１または２に記載のおむつ。
【発明の詳細な説明】
【０００１】
【発明の属する技術分野】この発明は、使い捨ておむつに関する。
【０００２】
【従来の技術】実開平１－１４１７０７号公報に開示の使い捨ておむつでは、吸収パッドが複数個のパッド片に分割されている。パッド片は、パルプと高分子吸収体との混合物である。各パッド片の周囲で表面シートと裏面シートとが密着している。
【０００３】特開平２－２６５５５号公報に開示の体液吸収体では、吸水膨潤性の高分子吸収体と液状接着剤とを混合した液状物質を透水性不織布に間欠的に塗布し、そうすることによって得られる体液吸収性の単位パッドを透水性の第２不織布で覆い、これら第１，２不織布が単位パッドそれぞれの周囲で互いに接合している。
【０００４】これら公知技術によれば、おむつやその他の体液吸収体の特定部位に高分子吸収体を配置しておくことができる。
【０００５】
【発明が解決しようとする課題】前記公知技術における高分子吸収体の典型である高吸水性ポリマー粒子は、吸水すると、膨潤軟化して多数の粒子が一体となり、ゲルブロックを形成する。かかるブロックは、水分の浸透を阻むから、ブロックで覆われてしまった吸収性材料は、吸水量が飽和に達していないにもかかわらず、もはや利用できなくなる。前記公知のパッド片や単位パッドでは、それらの表面近傍に位置する高分子吸収体がゲルブロックを形成し、パッド片や単位パッド内への水分の浸透を阻害することが生じ得る。そのような使い捨ておむつや体液吸収体は、高分子吸収体およびその他の吸収性材料をそれらの使用量に見合うほどには活用することができない。

2

【０００６】この発明が課題とするところは、使い捨ておむつの吸液性コアにおいて、高吸水性ポリマー粒子を使用した場合の吸液能力の有効利用にある。
【０００７】
【課題を解決するための手段】前記課題解決のために、この発明が前提とするのは、透液性表面シートと不透液性裏面シートと、これら両シート間に介在する吸液性コアとを備え、前胴周り域と、後胴周り域と、これら両域間に位置する股下域とを有し、前記前胴周り域から股下域を経て後胴周り域方向へ延びる仮想線に沿って、前記コアの少なくとも一部が分割されている使い捨ておむつである。
【０００８】かかる前提において、この発明が特徴とするところは、前記コアが、粉砕パルプを主体とする少なくとも一層の繊維層と高吸水性ポリマー粒子を主体とする少なくとも一層の粒子層とからなり、前記粒子層の上に前記繊維層が位置している実質的な積層品であって、分割されている部位における前記コアの側面に前記粒子層がのぞいていること、にある。
【０００９】この発明の好ましい実施態様の一つにおいて、前記コアが、前記仮想線と直交する方向の仮想線に沿っても分割されている。
【００１０】好ましい実施態様の他の一つにおいて、分割されて互いに対向する前記コアの側面どうしの間において、前記表面シートが前記側面に沿って垂下して前記裏面シートに当接し、その当接する部位において前記表裏面シートが互いに接合している。
【００１１】
【発明の実施の形態】添付の図面を参照して、この発明に係る使い捨ておむつの詳細を説明すると、以下のとおりである。
【００１２】図１に部分破断斜視図で示された使い捨ておむつは、透液性表面シート２と不透液性裏面シート３との間に吸液性コア４が介在してなるもので、前後の長手方向が前胴周り域６と、後胴周り域７と、これら両域６，７間に位置する股下域８とで構成されている。表裏面シート２，３は、コア４の周縁から延出する部分で互いに接合し、前後端縁部フラップ１１，１２と一対の側縁部フラップ１３とを形成している。後端縁部フラップ１２と各側縁部フラップ１３とでは、表裏面シート２，３間に胴周り弾性部材１６と脚周り弾性部材１７とが介在し、これら両部材１６，１７が表裏面シート２，３の少なくとも一方に伸長状態で接合している。後胴周り域７の両側縁部には、テープファスナ１８が取り付けられている。
【００１３】図２，３は、図１のII－II線切断面を示す

おむつ１の部分図と、コア４の平面図である。ただし、図２では、表面シート２の一部分が破断されており、図３では、コア４が裏面シート３の内面に載置されている。コア４は、粉砕パルプ等の親水性繊維が５０重量%以上を占める繊維層２１と、高吸水性ポリマー粒子が５０重量%以上を占める粒子層２２との積層品であって、図では繊維層２１が第１，２繊維層２１Ａ，２１Ｂからなり、粒子層２２がこれら第１，２繊維層２１Ａ，２１Ｂ間に介在している。第１繊維層２１Ａの厚みは、第２繊維層２１Ｂの厚みと同じであるかまたはそれよりも厚く、好ましくは第２繊維層２１Ｂの１．５倍以上である。かかるコア４は、前後方向へ延びる仮想線A_1，A_2，A_3に沿って、部分的に分割されており、その分割部位では、コア４どうしがおむつ１の幅方向へ寸法Ｗだけ離間している。分割部位において互いに対向するコア４の各側面２０には、第１，２繊維層２１Ａ，２１Ｂと粒子層２２とがのぞいている。互いに対向する側面２０どうしの間では、表面シート２が側面２０に沿って垂下して裏面シート３に当接し、裏面シート３の内面に溶着するか、またはホットメルト接着剤を介して接着することにより接合している。かくして、おむつ１の表面には前後方向へ延びる溝２３が形成される。

【００１４】このように構成されたおむつ１では、体液が表面シート２を透過してコア４の頂面２４から第１繊維層２１Ａに吸収される他に、側面２０からも第１繊維層２１Ａと、第２繊維層２１Ｂと、粒子層２２とのそれぞれに直接吸収される。粒子層２２は、体液を吸収すると膨潤軟化してゲルブロックを形成することがあり、そのときのブロックは、第１繊維層２１Ａから第２繊維層２１Ｂへの体液の移行を阻み、第２繊維層２１Ｂの吸液能力を有効利用することの妨げとなる。しかし、そのような場合でも、このおむつ１では、体液がコア４の側面２０からも吸収され、この吸収はゲルブロックの有無に関係なく進行するから、第２繊維層２１Ｂの吸液能力を無駄にすることがない。

【００１５】図４は、この発明の実施態様の一例を示す図３と同様の図面である。図示例のコア４は、前後方向の仮想線A_1～A_4の他に、幅方向の仮想線B_1～B_3に沿っても分割されている。表面シート２は、各仮想線A_1～A_4，B_1～B_3に沿って裏面シート３に接合しているから、コア４が図示のように細かく分割されていても、その一つずつは徒に動くということがない。かかるおむつ１では、コア４の側面２０の総面積を図３のそれよりも大きくすることができるから、体液吸収速度と吸収量とを向上させることが可能になる。

【００１６】この発明において、繊維層２１は、疎水性繊維を０～２０重量%、高吸水性ポリマー粒子を０～１０重量%含むことが可能である。その疎水性繊維は、繊維層２１における体液の拡散性の向上に寄与する。粒子層２２は、コア４の重量の５～５０%を占めることが可能であり、疎水性繊維や親水性繊維を０～５０重量%含むことが可能である。粒子層２２は、層としての形態を維持するために図示例のように第１，２繊維２１Ａ，２１Ｂでサンドウィッチにされていることが好ましい。さらには、サンドウィッチにされたうえで、第１，２繊維層２１Ａ，２１Ｂと共に圧縮されていることが好ましい。さらにはまた、粒子層２２および／または第１，２繊維層２１Ａ，２１Ｂが、１～１０重量%の水分を含んだ状態で圧縮されていることが好ましい。圧縮されたコア４では、各層の境界で繊維が粒子層２２に進入する一方、ポリマー粒子が繊維層２１へ進入する状態が生じ得る。ただし、このような状態は、この発明の実施の妨げにはならない。繊維層２１も粒子層２２も複数層にすることができる。ただし、コア４の最上層は繊維層２１でなければならない。また、コア４が、繊維層をティシューペーパーで被覆する構造のものであるときは、単層の繊維層２１の下側に粒子層２２を位置させ、これら両層２１，２２をティシューペーパーで被覆して一体にしてもよい。コア４を分割している溝２３への体液の流入が容易となるように図２における寸法Ｗは、１～１０ｍｍであることが好ましい。表面シート２には透水性の不織布やプラスチックシートを使用することが可能であり、裏面シート３には不透水性のプラスチックシートを使用することが可能である。

【００１７】

【発明の効果】この発明に係る使い捨ておむつは、粉砕パルプを主体とする繊維層と高吸水性ポリマー粒子からなる粒子層との積層体である吸液性コアが、おむつの前後方向へ延びる仮想線に沿って分割され、その分割された部位では、コアの側面に粒子層がのぞいているから、体液は、コアの頂面から吸収されるだけではなく、コアの側面から粒子層や、その粒子層の下側に位置する繊維層にも直接吸収される。それゆえ、このおむつでは、粒子層の吸液能力を有効に利用することができるばかりでなく、この粒子層がゲルブロックを形成した場合でも、粒子層下側の繊維層の吸液能力を有効に利用することができる。

【図面の簡単な説明】

【図１】使い捨ておむつの部分破断斜視図。

【図２】図１のＩＩ－ＩＩ線切断面を示す使い捨ておむつの部分斜視図。

【図３】裏面シート内面に載置された吸液性コアの平面図。

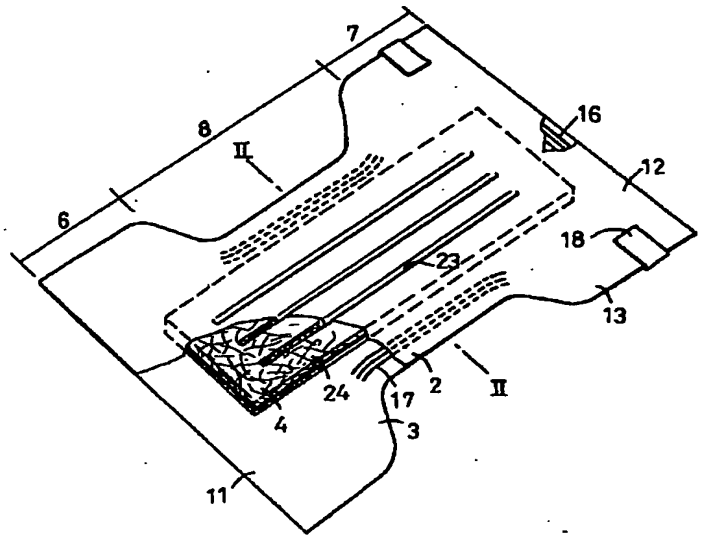
【図４】発明の実施態様の一例を示す図３と同様の図面。

【符号の説明】

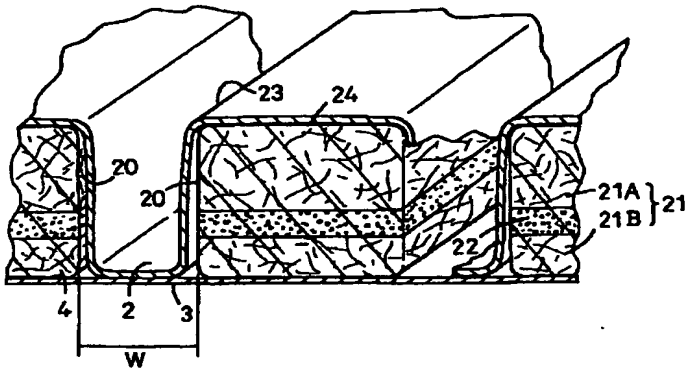
２　表面シート
３　裏面シート
４　コア
６　前胴周り域

7　後胴周り域
8　股下域
２１，２１Ａ，２１Ｂ　繊維層
＊２２　粒子層
$A_1-A_1 \sim A_4-A_4$　仮想線
＊　$B_1-B_1 \sim B_5-B_5$　仮想線

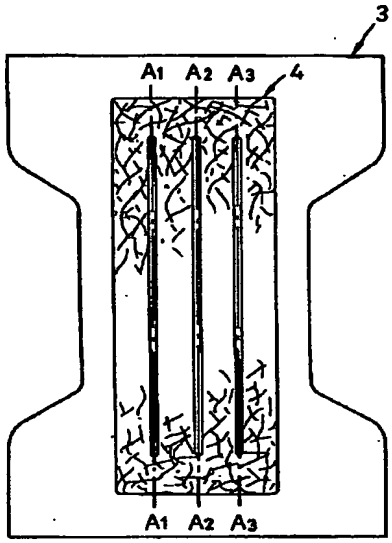
【図１】



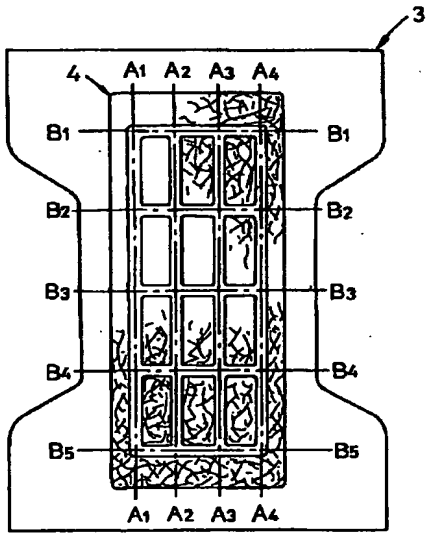
【図２】



【図３】



【図４】



PATENT ABSTRACTS OF JAPAN

(11)Publication number : 11-216161
(43)Date of publication of application : 10.08.1999

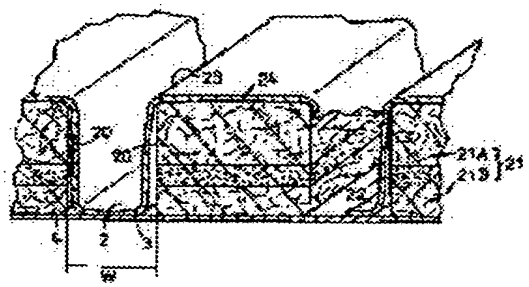
(51)Int.Cl. A61F 13/46
A61F 5/44

(21)Application number : 10-020000
(22)Date of filing : 30.01.1998

(71)Applicant : UNI CHARM CORP
(72)Inventor : SUGITO TOMOKO

(54) DISPOSABLE DIAPER

(57)Abstract:
PROBLEM TO BE SOLVED: To effectively utilize the liquid absorbent ability of a bibulous core including high bibulous polymer particle, in a disposable diaper.
SOLUTION: This disposable diaper comprises a liquid permeable surface sheet 2, liquid impermeable backing sheet 3, liquid absorbent core 4 lying between the sheets, the front waist area, the rear waist area and the inside leg area lying between the areas. At least a part of the liquid absorbent core 4 is divided along an imaginary line extending from the front waist area to the rear waist area through the inside leg area. The liquid absorbent core 4 is a substantial laminator where at least one fiber layer 21 mainly made of ground pulp lies on particle layer 22 mainly made of high bibulous polymer particles. The particle layer 22 can be seen on the side of the liquid absorbent core 4 at the divided part.



LEGAL STATUS

[Date of request for examination] 25.04.2001
[Date of sending the examiner's decision of rejection]
[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]
[Date of final disposal for application]
[Patent number] 3406214
[Date of registration] 07.03.2003
[Number of appeal against examiner's decision of rejection]
[Date of requesting appeal against examiner's decision of rejection]
[Date of extinction of right]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

CLAIMS

[Claim(s)]
[Claim 1] It has a liquid permeability surface sheet, a non-liquid-permeable nature rear-face sheet, and the absorbent core that intervenes among both [these] sheets. The circumference region of a forward fuselage assembly, In the disposable diaper with which said a part of core [at least] is divided along with the imaginary line which has a circumference region of a back drum, and the length-from-the-crotch-to-the-cuff region located among both [these] regions, and is prolonged in the direction of the circumference region of a back drum through a length-from-the-crotch-to-the-cuff region from the circumference region of said forward fuselage assembly Said core consists of particle layer much more at least which makes a subject fiber layer much more at least which makes grinding pulp a subject, and a high absorptivity polymer particle. Said diaper which is the substantial laminate with which said fiber layer is located on said particle layer, and is characterized by said particle layer removing on the side face of said core in the part currently divided.
[Claim 2] The diaper according to claim 1 currently divided even if said core meets the imaginary line of the direction which intersects perpendicularly with said imaginary line.
[Claim 3] The diaper according to claim 1 or 2 which said surface sheet hung along said side face among the side faces of said core which is divided and counters mutually, contacted said rear-face sheet, and said table rear-face sheet has joined in the contacting part.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention relates to a disposable diaper.
[0002]
[Description of the Prior Art] The absorption pad is divided into two or more pieces of a pad in the disposable diaper of the indication to JP,1-141707,U. The piece of a pad is the mixture of pulp and a high-polymer absorbent. The surface sheet and the rear-face sheet have stuck around each piece of a pad.
[0003] The unit pad of the body fluid absorptivity acquired by applying intermittently the liquefied matter which mixed the high-polymer absorbent and liquid glue of water absorption bloating tendency, and doing it so to a permeable nonwoven fabric in the body fluid absorber of an indication at JP,2-26555,A was covered with the 2nd permeable nonwoven fabric, and these the 1st and 2 nonwoven fabrics have joined mutually around each unit pad.
[0004] According to these well-known techniques, a high-polymer absorbent can be arranged to the specific part of a diaper or other body fluid absorbers.
[0005]
[Problem(s) to be Solved by the Invention] If the high absorptivity polymer particle which is the type of the high-polymer absorbent in said well-known technique absorbs water, swelling softening will be carried out, many particles will be united, and it will form a gel block. Although the coefficient of water absorption has not reached saturation, it becomes impossible to already use the absorptivity ingredient covered with a block, since this block obstructs osmosis of moisture. With said well-known piece of a pad and well-known unit pad, that the high-polymer absorbent located near [those] the front face forms a gel block, and checks osmosis of the moisture into the piece of a pad or a unit pad may arise. Such a disposable diaper or a body fluid absorber cannot utilize a high-polymer absorbent and other absorptivity ingredients for the forge fire corresponding to those amount used.
[0006] The place which this invention makes a technical problem is in a deployment of the liquid absorption capacity at the time of using a high absorptivity polymer particle in the absorbent core of a disposable diaper.
[0007]
[Means for Solving the Problem] For said technical-problem solution, this invention a premise It has a liquid permeability surface sheet, a non-liquid-permeable nature rear-face sheet, and the absorbent core that intervenes among both [these] sheets. The circumference region of a forward fuselage assembly, It is the disposable diaper with which said a part of core [at least] is divided along with the imaginary line which has a circumference region of a back drum, and the length-from-the-crotch-to-the-cuff region located among both [these] regions, and is prolonged in the direction of the circumference region of a back drum through a length-from-the-crotch-to-the-cuff region from the circumference region of said forward fuselage assembly.
[0008] The place by which this invention is characterized in this premise is a substantial laminate with which said core consists of particle layer much more at least which makes a subject fiber layer much more at least and the high absorptivity polymer particle which make grinding pulp a

subject, and said fiber layer is located on said particle layer, and is for said particle layer to remove on the side face of said core in the part currently divided.
[0009] In one of the desirable embodiments of this invention, even if said core meets the imaginary line of the direction which intersects perpendicularly with said imaginary line, it is divided.
[0010] a desirable operative condition — in other one [like], said surface sheet hung along said side face among the side faces of said core which is divided and counters mutually, said rear-face sheet was contacted, and said table rear-face sheet has joined mutually in the contacting part.
[0011]
[Embodiment of the Invention] It is as follows when the detail of the disposable diaper concerning this invention is explained with reference to an attached drawing.
[0012] The absorbent core 4 comes to intervene between the liquid permeability surface sheet 2 and the non-liquid-permeable nature rear-face sheet 3, and, as for the disposable diaper shown in drawing 1 with the partial fracture perspective view, the longitudinal direction of order consists of a circumference region 6 of a forward fuselage assembly, a circumference region 7 of a back drum, and both [these] the regions 6 and the length-from-the-crotch-to-the-cuff region 8 located among seven. It joins mutually in the part which extends from the periphery of a core 4, and the front rear-face sheets 2 and 3 form the order edge section flaps 11 and 12 and the side edge section flap 13 of a pair. With the trailing edge flap 12 and each side edge section flap 13, the circumference elastic member 16 of a drum and the circumference elastic member 17 of a foot intervened between the front rear-face sheet 2 and 3, and both [these] the members 16 and 17 have joined to at least one side of the front rear-face sheets 2 and 3 in the state of expanding. The tape fastener 18 is attached in the edges-on-both-sides section of the circumference region 7 of a back drum.
[0013] Drawing 2 and 3 are the partial diagrammatic view of the diaper 1 in which the II-II line cutting plane of drawing 1 is shown, and the top view of a core 4. However, some surface sheets 2 are fractured in drawing 2 , and the core 4 is laid in the inside of the rear-face sheet 3 in drawing 3 R> 3. A core 4 is the laminate of the fiber layer 21 in which hydrophilic fiber, such as grinding pulp, occupies 50 % of the weight or more, and the particle layer 22 in which a high absorptivity polymer particle occupies 50 % of the weight or more, the fiber layer 21 consists of 1st and 2 fiber layers 21A and 21B by a diagram, and the particle layer 22 intervenes between these 1st and 2 fiber layer 21A and 21B. The thickness of 1st fiber layer 21A is the same as the thickness of 2nd fiber layer 21B, or is thicker than it, and is 1.5 or more times of 2nd fiber layer 21B preferably. This core 4 is the imaginary line A1 prolonged to a cross direction, A2, and A3. It meets, and is divided partially and core 4 have estranged only the dimension W crosswise [of a diaper 1] by the division part. In each side face 20 of the core 4 which counters mutually in a division part, the 1st and 2 fiber layers 21A and 21B and the particle layer 22 are removing. Among side-face 20 which counter mutually, the surface sheet 2 hung along the side face 20, the rear-face sheet 3 was contacted, and it has joined by welding [of the rear-face sheet 3] or pasting up through hot melt adhesive. In this way, the slot 23 which extends to a cross direction is formed in the front face of a diaper 1.
[0014] Thus, in the constituted diaper 1, body fluid penetrates the surface sheet 2, and is absorbed by 1st fiber layer 21A from the top face 24 of a core 4, and also it is directly absorbed by each of 1st fiber layer 21A, 2nd fiber layer 21B, and the particle layer 22 from a side face 20. If body fluid is absorbed, the particle layer 22 may carry out swelling softening, may form a gel block, and the block at that time will obstruct that the body fluid from 1st fiber layer 21A to 2nd fiber layer 21B shifts, and it will serve as hindrance of using effectively the liquid absorption capacity of 2nd fiber layer 21B. However, such even case, in this diaper 1, body fluid is absorbed also from the side face 20 of a core 4, and since this absorption advances regardless of the existence of a gel block, it does not make useless liquid absorption capacity of 2nd fiber layer 21B.
[0015] Drawing 4 is the same drawing as drawing 3 which shows an example of the embodiment of this invention. The core 4 of the example of illustration is the imaginary line A1 of a cross

direction - A4. Otherwise, they are the crosswise imaginary line B1 - B5. It is divided even if met. The surface sheet 2 is each imaginary line A1 - A4, B1 - B5. Since it met and has joined to the rear-face sheet 3, even if the core 4 is finely divided like illustration, it is said by not every one of them that it moves to **. In this diaper 1, since the gross area of the side face 20 of a core 4 can be made larger than that of drawing 3 , it becomes possible to raise body fluid rate of absorption and an absorbed amount.

[0016] In this invention, a high absorptivity polymer particle can be included for hydrophobic fiber by the fiber layer 21 zero to 10% of the weight zero to 20% of the weight. The hydrophobic fiber contributes to improvement in the diffusibility of the body fluid in the fiber layer 21. The particle layer 22 can occupy 5 - 50% of the weight of a core 4, and hydrophobic fiber and hydrophilic fiber can be included zero to 50% of the weight. In order to maintain the gestalt as a layer, as for the particle layer 22, it is desirable to be made sandwiches for the 1st and 2 fiber 21A and 21B like the example of illustration. Furthermore, after being made sandwiches, it is desirable to be compressed with the 1st and 2 fiber layers 21A and 21B. It is desirable that the particle layer 22 and/or the 1st and 2 fiber layers 21A and 21B are compressed further again where 1 - 10% of the weight of moisture is included. With the compressed core 4, while fiber advances into the particle layer 22 on the boundary of each class, the condition that a polymer particle advances to the fiber layer 21 may arise. However, such a condition does not become the hindrance of implementation of this invention. The fiber layer 21 and the particle layer 22 can be made into two or more layers. However, the maximum upper layer of a core 4 must be the fiber layer 21. Moreover, when a core 4 is the thing of the structure which covers a fiber layer with a tissue paper, the particle layer 22 is located in the fiber layer 21 bottom of a monolayer, both [these] the layers 21 and 22 are covered with a tissue paper, and it is good as for one. As for the dimension W in drawing 2 , it is desirable that it is 1-10mm so that the inflow of the body fluid to the slot 23 which is dividing the core 4 may become easy. It is possible to use a permeable nonwoven fabric and a permeable sheet plastic for the surface sheet 2, and it is possible to use the sheet plastic of impermeability for the rear-face sheet 3.

[0017]

[Effect of the Invention] The absorbent core which is a layered product with the particle layer which consists of the fiber layer and high absorptivity polymer particle which make grinding pulp a subject the disposable diaper concerning this invention It is divided along with the imaginary line prolonged to the cross direction of a diaper, and by the divided part, since the particle layer is removing on the side face of a core, body fluid is not only absorbed from the top face of a core, but is directly absorbed from the side face of a core by a particle layer and the fiber layer located in the particle layer bottom. So, it not only can use the liquid absorption capacity of a particle layer effectively, but in this diaper, even when this particle layer forms a gel block, it can use effectively the liquid absorption capacity of the fiber layer of the particle layer bottom.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] The partial fracture perspective view of a disposable diaper.
[Drawing 2] The partial perspective view of the disposable diaper in which the II-II line cutting plane of drawing 1 is shown.
[Drawing 3] The top view of an absorbent core laid in the rear-face sheet inside.
[Drawing 4] The same drawing as drawing 3 which shows an example of the embodiment of invention.
[Description of Notations]
2 Surface Sheet
3 Rear-Face Sheet
4 Core
6 Circumference Region of Forward Fuselage Assembly
7 Circumference Region of Back Drum
8 Length-from-the-Crotch-to-the-Cuff Region
21, 21A, 21B Fiber layer
22 Particle Layer
A1-A1 - A4-A4 Imaginary line
B1-B1 - B5-B5 Imaginary line

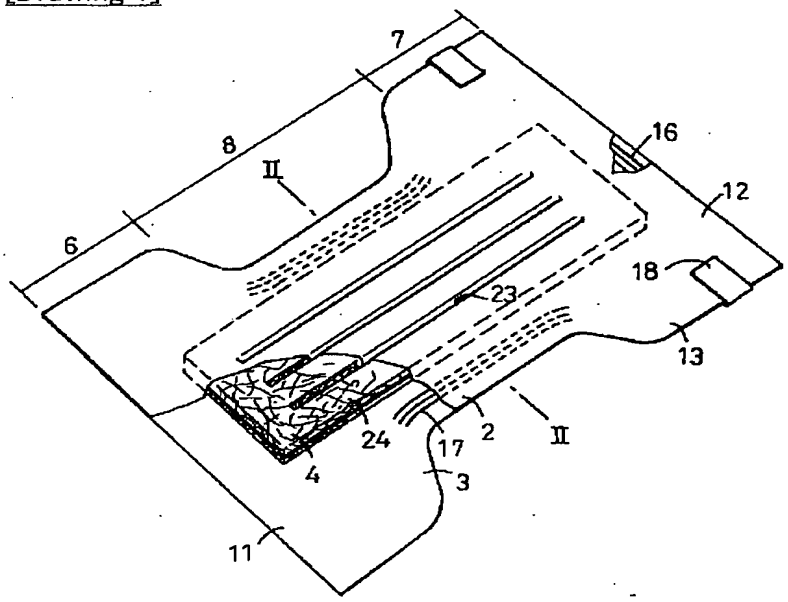
[Translation done.]

* NOTICES *

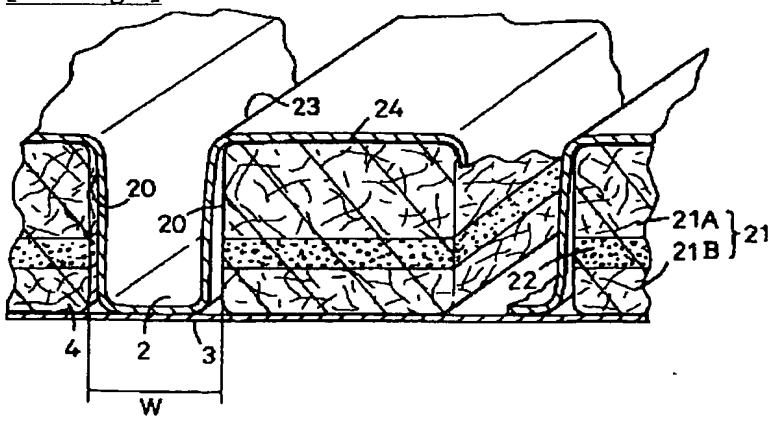
1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DRAWINGS

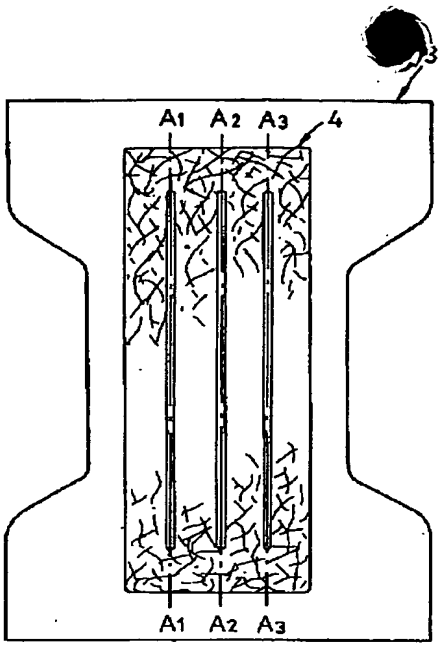
[Drawing 1]



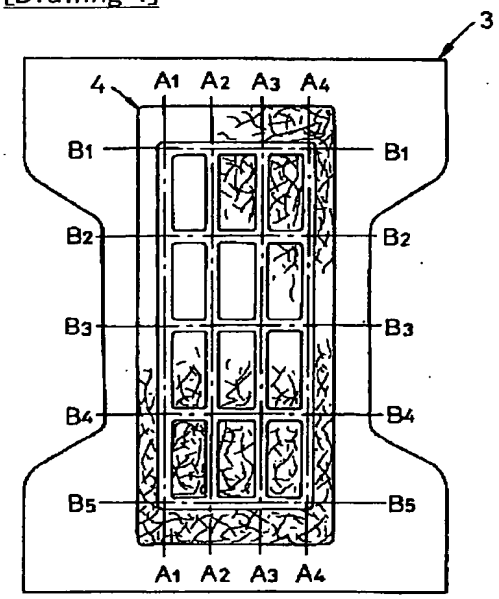
[Drawing 2]



[Drawing 3]



[Drawing 4]



[Translation done.]